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Garofalo & Associates, Inc.

Consulting Engineers
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DEC 28 2021

December 22, 2021

**Planning Board
Grafton, MA**

Jeffrey M. Walsh, P.E.
Principal
GRAVES ENGINEERING, INC.
100 Grove Street
Worcester, Massachusetts 01605

**RE: 244 Worcester Street – Site Plan, Wetland Regulations, and Stormwater Regulations Review
Response to Comments
CB Distribution
244 Worcester Road, Grafton MA
GAI PN: 7280.00**

Mr. Walsh,

Garofalo & Associates, Inc. (Garofalo) respectfully submits the enclosed updated materials in response to your December 9, 2021 comment letter.

REVIEW COMMENTS

Zoning By-Law

Comment 1: *The plans need to identify the ownership of all abutting land within two-hundred feet of the project's property lines.*

Response: **The ownership of all abutting land within two-hundred feet of the project's property lines has been added to sheet G-2.1.**

Comment 2: *The plans need to include the lot coverage calculations showing percentage of buildings, pavement, and open space /landscaped areas.*

Response: **Lot coverage calculations have been added to sheet G-2.3.**

Comment 3: *The plans need to include an estimate of the volume of earth material to be removed or filled on the property.*

Response: **Earthwork volume estimates have been added to sheet CG-1.1.**

Hydrology & MassDEP Stormwater Management

Comment 4: *GEI reviewed the hydrology computations and found them to be in order provided that the following comment is addressed.*

Response: **See responses below.**



Comment 5: On Sheet CU-1.1, the size of the outlet pipe for the Retention Basin BMP-1B need to be revised to be consistent with the hydrology computations and with the "Control Structure (CS-1)" construction detail on Sheet DT-1.5.

Response: The outlet pipe label for BMP 1B on sheet CU-1.1 has been revised to be consistent with the hydrology calculations and the control structure detail.

Comment 6: Compliance with the MassDEP Stormwater Handbook and Standards is reasonable except as noted in the following comment.

Response: See responses below.

Comment 7: On Sheet CU-1.1, catch basins CB3 and CB4 need to be configured in a catch basin to manhole configuration instead of a catch basin to catch basin configuration.

Response: A manhole (DMH-3B) has been added between CB3 and CB4 to provide a catch basin to manhole configuration.

Comment 8: Pipe sizing and velocity calculations need to be included in the Stormwater Management Report.

Response: Pipe sizing and velocity calculations have been added to Appendix E of the Stormwater Management Report.

Comment 9: The Operation and Maintenance Plan needs to include an updated BMP Location Map (Appendix A) as it currently depicts a superseded layout. In addition, the map needs to depict the location of all drainage easements.

Response: The BMP Location Map has been revised to reflect the current layout and has depicted the location of all drainage easements.

Comment 10: Once the information becomes available, the Operation and Maintenance Plan will need to be updated to include the names, addresses, and contact information of the person(s) responsible for the site operation and maintenance.

Response: Confirmed.

Regulations for the Administration of the Grafton Wetlands Protection Bylaw

Comment 11: GEI has no issues relative to compliance with Wetland Protection Bylaw except for the following comment.

Response: See responses below.

Comment 12: A site-specific phasing plan needs to be provided.

Response: See response 13.



General Engineering Comments

Comment 13: The plan sheet list on the title sheet indicates C-1.1 Construction Phasing Plan as part of the plan set. However, it was omitted from the set provided to GEI.

Response: The Construction Phasing Plan (Sheet C-1.1) has been included in this resubmission.

Comment 14: The north arrow utilized in the plan set inadvertently refers to Rhode Island state plane.

Response: The north arrow has been revised to reference the 1929 state highway layout plan.

Comment 15: On sheets CL-1.1 and CL-1.2, the leader notes indicate that the proposed 6 ft wide sidewalk is to be constructed of bituminous concrete, however the corresponding hatch pattern indicates cement concrete.

Response: The leader notes on sheets CL-1.1 and CL-1.2 have been revised to be consistent with the hatching patterns shown.

Comment 16: On sheet CU-1.2, the southern inlet invert elevation for DMH11 (364.90) needs to be lower than the upgradient pipe originating at WQS-9 (364.62).

Response: The invert elevation at DMH11 has been lowered to be lower (364.08) than the upgradient pipe originating at WQS-9.

Comment 17: On sheet DT-1.6, the pump model number for the "Eone Detail Sheet" construction detail does not concur with the label for the guard house sewer pump station on sheet CU-1.2.

Response: The pump station callout on sheet CU-1.2 has been revised to be consistent with detail on sheet DT-1.6.

Comment 18: Sheets L04 and L06 show proposed trees planted on top of the drainage pipes. GEI recommends adjusting the locations of the respective trees to avoid pipe damage in the future.

Response: The drainage pipe has been shifted south to avoid conflict(s).

Comment 19: A construction detail should be included for trench drains that are proposed in the northeastern parking area on sheet CG-1.1.

Response: A typical trench drain construction detail is included on sheet DT-1.4, which has been edited to provided additional site specific clarification(s).



General Comments

Comment 20: GEI understands that the proposed water and sewer utilities will be reviewed by the respective utility providers.

Response: Confirmed. Approvals from these utility providers will be obtained prior to construction.

I trust that the information outlined is sufficient for continued review of the project. If you have any questions, or require additional materials, please call.

Sincerely,
Garofalo & Associates, Inc.

A handwritten signature in blue ink, appearing to read "S. Hemenway", with a long horizontal stroke extending to the right.

Samuel Hemenway, PE
Project Manager

